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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,613	06/03/2005	Lecna Silakoski	124096	4955
25944	7590	11/14/2007		
OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850			EXAMINER HUG, ERIC J	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 11/14/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/537,613

Applicant(s)

SILAKOSKI, LEENA

Examiner

Eric Hug

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-20 and 22-33 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

***Response to Amendment***

The following is in response to the amendment filed on September 5, 2007.

***Response to Arguments***

Applicant's arguments filed September 5, 2007 have been considered.

The amendment to claim 16 overcomes the rejection under 35 U.S.C. 112, second paragraph, set forth previously.

It is recognized that the feature of a non-linear boundary surface given by claim 21 is not disclosed or suggested by any of the references applied previously.

Applicant's arguments regarding the rejection of claims 16-20 and 22-30 under 35 U.S.C. 103(a) over Hyvonen in view of Weatherly, Rexfelt, and Collette are not persuasive for the following reasons:

Applicant argues against the references individually, however, one cannot show nonobviousness by attacking references individually where the rejections are based on a combination of references. Also, the test for obviousness is not whether the features of any of the secondary references may be bodily incorporated into the structure of the primary reference, nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. In this instance, the secondary references are provided, *as a whole*, to show that the overlapping seam of the present invention is well known in the art of paper machine fabrics, including press felts, and is known as a suitable, perhaps *an improved*, alternative to a butt seam. Each of the three cited secondary references teach the

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concept of an overlapping seam, with an emphasis on obtaining a stronger seam without sacrificing fabric permeability in the seam region. Individually, the references only provide a partial picture of the state of the art regarding overlapping seams, but together, they provide a comprehensive look at the techniques and materials employed to produce such a seam in paper making fabrics of all types of construction. The fact that Weatherly discloses a forming fabric rather than a press felt, and that Collette and Rexfelt teach seaming of spirally-wound press felts is deemed immaterial. What these references disclose is an alternative to a butt seam, the type of seam disclosed in the primary reference Hyvonen. One of ordinary skill in the art is presumed to know something about the art apart from what the references alone teach, including the ability to apply an overlapping seam to the press felt of Hyvonen. The fact that Applicant has recognized an advantage by using an overlapping seam versus a butt seam, one that would flow naturally from following the suggestion of the prior art, cannot be the basis for patentability when the differences are otherwise obvious.

The rejection set forth previously has been replicated below with some modification to include claims 31-33 and to more clearly point out the claimed features.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 16-20 and 22-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyvonen (WO 02/053833) in view of Weatherly et al (US 4,501,782), Rexfelt (US 5,360,656), and Collette (US 5,713,399).

Hyvonen discloses a press felt, a base fabric for the press felt, and a method of manufacturing the press felt. The press felt comprises base fabric 2 and a batt fiber layer 1 on the side facing the web. See Figure 1. The felt may also comprise a batt fiber layer 3 on the opposite side. The base fabric is assembled prior to batt fiber attachment, by connecting the transverse jointing edges of one or more base fabric modules edge on edge to form a closed loop fabric. The connection is with a butt seam. The batt fiber layers are then attached to the base fabric, such as by needling. The connection of the base fabric at the seam area is carried out with stitches, ultrasound welding, gluing, melting, or any other suitable manner without any locking means belonging to the structure of the base fabric modules. See page 9, lines 1-23. The connection hold the ends of the base fabric modules immovably in place at least until the needling of the batt fiber layer is completed. The base fabric may be made of a first base fabric module woven into a closed loop and of a second base fabric module which is planar in shape and joined along the transverse edges as described above. This embodiment is shown in Figure 10c.

Thus, regarding the base fabric of independent claim 29, Hyvonen discloses a plurality of longitudinal and transverse yarns and a first planar component comprising first and second

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transverse joining areas connected to each other undetachably. Regarding the base fabric of independent claim 33, Hyvonen further discloses a second component having a shape of a closed loop upon which the first planar component is located. Regarding the press felts of independent claims 24 and 32, Hyvonen further discloses at least one batt fiber layer attached to the base fabric. Regarding the method claims of independent claims 16 and 23, Hyvonen further discloses attaching the edge areas of the base fabric are before applying the batt fiber layer thereto. Hyvonen also discloses a woven base fabric with width corresponding to that of the press felt, which reads on claim 31.

The base fabric and press felt of Hyvonen differs from that of the present invention in that the transverse joining area (seam) of the base fabric comprises an adjoining butt seam, rather than an overlapping seam as claimed. Accordingly, the features of the overlapping seam, namely the thinned joining edge area, and the permeability and thickness which correspond to the rest of the fabric, are not disclosed by Hyvonen.

Weatherly discloses an overlapping ultrasonically welded seam for bonding the transverse edges of thermoplastic webs. The technique is applicable for continuous loop type belts in a papermaking process in which a butt seam is normally formed by ultrasonic welding. The method for includes the steps of interdigitating the ends of the warps at opposing web edges after shute threads have been removed, and subsequently ultrasonically bonding across the width of the web so that the ends are crushed down and flattened over the corresponding shute. Weatherly particularly emphasizes several benefits of an overlapping seam versus a butt seam. See the Background section, columns 1 and 2. Therefore, at the time of the invention, it would have been obvious to one skilled in the art to replace the butt seam of Hyvonen with an

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overlapping seam that has been ultrasonically welded and compressed as taught by Weatherly to provide a better seam that is also easier to form.

The teachings of Rexfelt and Collette are further cited here to further illustrate how one may form an overlapping, ultrasonically welded seam.

Rexfelt discloses a press felt for a paper making machine. The fabric is made by spirally winding an endless strip of fabric into a base fabric of desired width, with the adjacent longitudinal edges of the strip being joined into a seam. Rexfelt shows an overlapping seam in Figure 7. According to Figure 7, the spacing between longitudinal threads is increased at the edges, and then the thinner edge portions are interlaced. This gives rise to an unchanged spacing between longitudinal threads in the area of transition. This does not give rise to an increased thickness in the seam area of transition. The edge joint can be achieved by sewing, melting, or ultrasonic welding, see column 2, lines 46-50.

Collette further exemplifies the ultrasonic welding technique as applied to an overlapping seam. The seam is compressed between the horn of the ultrasonic welding apparatus and an anvil, and the horn is activated to deliver ultrasonic energy thereto to effect the weld. The anvil is a rotatable cylindrical or wheel-like member having a circumferential surface against which the horn compresses the seam for closure. This gives rise to a compressed seam with thickness corresponding to the thickness of the rest of the fabric. Collette also discloses an overlapping length of 4 mm (see Example).

One arrives at the present invention by replacing the butt seam of Hyvonen with the overlapping seam formed as taught above to obtain the advantages thereof. The seam has the

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claimed features of thinned yarn density at the adjoining edges during seam formation and a permeability in the seam area after seam formation that matches that of the rest of the fabric.

The features of the overlapping seams described by the supporting references read on the feature of claims 16, 23, 24, 29, 32, 33 which are not disclosed by Hyvonen, namely overlapping edges, the smaller density of transverse yarns in the seam area, and the corresponding thickness and permeability of the seam region to the rest of the fabric. These features also read on the density of claims 18 and 26, and the thinned area of claim 19. The welding of claims 20, 27, and 30 is disclosed by Collette. Regarding claims 17, 25, and 28, the claimed length is unpatentable, because one skilled in the art would recognize choosing a length sufficient to provide a strong seam without comprising the rest of the fabric. Regarding claim 22, each of the supporting references attempts to match the yarn pattern of the seam area to that of the rest of the fabric.



***Allowable Subject Matter***

Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Information Disclosure Statement***

The information disclosure statement filed August 29, 2007 has been considered.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Eric Hug  
Primary Examiner